

JAMES M. ANDERSON,
C.S.M.M.G., M.E., D.S.C.,
Chartered Masseur and Chiropodist.

9 MIDTON AVENUE,
PRESTWICK.

Medical Electricity.

Theory of Light. p 65. Undulatory theory, e.m. dist. of ether waves measured between crests, amplitude. Frequency, velocity. Rate of propagation same, but wave length varies. Light must pass through energy caused by vibration of electrons transmitted through ether. Physical universe = + electrons - electrons + radiations. 92 elements. Radiation starts when electron drops downwards. Wave length = colour, amplitude = brightness. Light can only be produced by vibration of electrons. Frequency increases proportionately with diameter in wave length.

Rate of Transmission of Radiant Energy. p 66, 326 miles/sec. All e.m. waves travel distance = 8 times earth's circumference. Only short range of radiant energy perceptible to the eye. 1 octave of light i.e. waves at violet end pulsating at twice rate of waves at red end.

E.M. Spectrum. one end Hertzian or wireless waves, length measured in miles then several octaves of infra red then 1 visible octave. Then Ultra Violet, X ray, gamma rays, wave length 1/40 downwards. $\lambda = \frac{1}{10,000,000}$ of a millimetre and finally cosmic rays.

Quartz transparent to all rays longer than light waves i.e. infra red, Hertzian light & heat & 2.49 induction travel at same speed.

luminescence, fluorescence, phosphorescence. p 70. the shorter the wave length (X rays) the greater the penetration p 72-73.